

Climatological Data for October, 1909.  
**DISTRICT No. 9, COLORADO VALLEY,**  
FREDERICK H. BRANDENBURG, District Editor.

**GENERAL CLIMATOLOGICAL CONDITIONS.**

The dry spell that began near the middle of the preceding month continued with but little interruption during October. Nearly half of the stations in the district reported no appreciable precipitation, and at the others the amounts were much below the normal. The clear skies were accompanied by high day temperatures, a large diurnal range, and in the southern half of the district by a remarkable excess of sunshine.

**TEMPERATURE.**

The mean of the 135 stations reporting was  $56.6^{\circ}$ , or  $0.8^{\circ}$  above their normal. An excess was general, except in parts of the Gila and lower Colorado valleys. The day temperatures were everywhere higher than the normal, and the nights somewhat cooler. In localities where the nocturnal radiation was greatest, the deficiency in the night temperatures was enough to bring the mean somewhat below the average. There were two cool spells, neither of them being severe. The first occurred on the 9th and the second at the close of the month. Killing frost occurred in all the district on one or the other of these dates, except in the warmer parts of Arizona. By subdivisions the means and departures were: Western Wyoming,  $42.0^{\circ}$ ,  $+1.7^{\circ}$ ; western Colorado,  $45.8^{\circ}$ ,  $+1.5^{\circ}$ ; eastern Utah,  $52.1^{\circ}$ ,  $+3.7^{\circ}$ ; western New Mexico,  $55.1^{\circ}$ ,  $+0.4^{\circ}$ ; Arizona,  $63.8^{\circ}$ ,  $+0.1^{\circ}$ . The highest monthly mean was  $77.0^{\circ}$ , at Mohawk Summit, Ariz., and the lowest,  $29.9^{\circ}$ , at Corona, Colo. The extremes were  $100^{\circ}$  at several points in Arizona, and  $2^{\circ}$  below zero, at Breckenridge, Colo.

**PRECIPITATION.**

The mean of the 171 stations reporting was 0.24 inch, or 0.64 inch below the normal. A deficiency was general in all parts of the district, and the only material amounts occurred near the Continental Divide in Colorado and New Mexico. In Arizona the month was the driest October but one since the establishment of the service. Scattered showers occurred near the mountains from the 3d to the 7th, and in the northern half of the district on the 30th and 31st. In no case was the fall excessive. At the higher stations in the northern half of the district much of the precipitation was in the form of snow, which, however, was soon melted. By watersheds the means and departures were: Green, 0.24 inch,  $-0.53$  inch; Grand, 0.69 inch,  $-0.73$  inch; San Juan, 0.56 inch,  $-0.62$  inch; Little Colorado, 0.01 inch,  $-1.03$  inches; Gila, 0.04 inch,  $-0.62$  inch; lower Colorado, 0.08 inch,  $-0.45$  inch. The heaviest precipitation was 1.95 inches, at Pitkin, Colo.; 72 stations reported no rainfall, and several others but a trace.

**RIVERS.**

The rivers in the district fell steadily during the month, but

an ample water supply was reported, owing to the heavy rains of the preceding month.

**MISCELLANEOUS.**

The amount of sunshine in the southern half of the district was extraordinary; Yuma and Flagstaff reported 98 per cent of the possible sunshine; Phoenix, 97 per cent, and Durango, 88 per cent. At Grand Junction the amount was slightly below the normal. In Arizona the relative humidity was slightly above the normal; in western Colorado it was deficient.

**ROOSEVELT DAM TUNNEL COMPLETED.**

The tunnel through the Roosevelt dam, on the Salt River Irrigation Project, 70 miles east of Phoenix, Ariz., has been completed. The actual construction work is finished and all that now remains to be done is for the concrete work to become thoroughly set, which will consume about fifteen to twenty days, when it is expected that water will be directed through the tunnel. The large break, on top of the dam, through which water to the depth of 3.0 feet was allowed to run, for supplying the canals and intakes below the dam, will be filled in by the contractors.

The power canal, along the Salt River, from Roosevelt to Intake, Ariz., a distance of 18 miles, will be further lined with concrete for a considerable distance, in order to secure stability and rigidity.

**EVAPORATION MEASUREMENTS.**

The evaporation measurements, made under the supervision of the U. S. Reclamation Service, at the Granite Reef Dam, on the Salt River, 2 miles below the confluence of the Verde River, were continued during the month of October, 1909.

**PUMPING PLANTS, SACATON, GILA RIVER INDIAN RESERVATION.**

The pumping plants installed at Sacaton, Ariz., on the Gila River Indian Reservation, by the U. S. Reclamation Service, for irrigation purposes, were practically completed during October. A power line, connecting with the Roosevelt power house, has been run from Mesa to Sacaton, Ariz., whereby sufficient power is utilized for pumping water upon the lands of the Indian Reservation.

**EGYPTIAN COTTON EXPERIMENTS.**

The Egyptian cotton, planted by the Bureau of Plant Industry, Department of Agriculture, on the Gila River Indian Reservation, 40 miles south of Phoenix, Ariz., early last April, has yielded well. Some picking is still in progress but the bulk of the crop has already been gathered. The results this year are highly satisfactory—in fact, a much larger yield per acre than last year. It is intended to plant a larger acreage next year.

TABLE 1.—*Climatological data for October, 1909. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
<i>Wyoming.</i>																			
Daniel.	Uinta.	6,740	10	39.6	+ 1.7	69	65	12	8†	50	T.	- 0.72	T.	T.	0	16	13	2	nw.
Dixon.	Carbon.																		J. M. Van Dervort.
Eden.	Sweetwater.	6,577	3	40.2		72	2†	4	31	52	0.16		0.12	0.0	2	24	4	3	w.
Fontanelle.	Uinta.	6,400	4	46.2		81	19	14	8†	55	T.		T.	0.0	0	22	5	4	w.
Green River.	Sweetwater.	6,083																	Carey O. Morgan.
Kendall.	Fremont.	7,630																	Eden Valley L'd & Ir. Co.
Pinedale.	do.	7,187	3																C. W. Holden.
Willow Creek Cabin.	do.	7,500	1																Geo. H. Maxom.
<i>Colorado.</i>																			Art Doyle.
Ashcroft.	Pitkin.	9,483	8	39.6		69	1	10	9	42	1.04		0.33	16.0	7				Forest Service.
Brookridge.	Summit.	9,536	19	37.7b	+ 1.4	66b	1	— 2b	9	45b	0.51b	- 0.91	0.44b	4.5b	2b	4	20	7	John L. Allen.
Cascade.	San Juan.	8,900	3																Dan McArthur.
Chromo.	Archuleta.	7,500	3	43.0		75	2†	11	11	54	0.99		0.66	0.0	3	25	1	5	Mrs. J. G. Thompson.
Cochetopa.	Saguache.	9,088																San Juan P. & W. Co.	
Colbar.	Mesa.	6,000	16	50.8		76	2†	17	31	34	0.37	- 0.82	0.14	2.5	5	24	5	2	Lawrence Nolan.
Columbine.	Routt.	8,766																Bessie McDonough.	
Columbine Ranch.	De'ta.	6,925																A. A. Wood.	
Corona.	Grand.	11,660	2	29.9		56	2	4	10†	24	1.30		0.50	17.5	7			Jas. H. Carson.	
Crawford (near).	Montrose.	6,600	49.6			75	1	16	31	37	0.92		0.34	0.8	7	20	7	Geo. W. Wade.	
Crested Butte.	Gunnison.	8,867																U. S. Weather Bureau.	
De Beque.	Mesa.	4,935																C. W. Roe.	
Delta.	Delta.	4,965	18	54.8	+ 4.9	85	2†	22	9	58	0.42	- 0.23	0.22	0.0	4	26	5	0	Charles L. Ross.
Dillon.	Summit.	8,800																C. M. Paine.	
Dolores.	Dolores.	6,500	53.8			78	3	29	28†	39	0.31		0.21	0.5	3	21	9	1	E. M. Getts.
Dunkley.	Routt.	7,430	3															Harry T. Hamilton.	
Durango.	La Plata.	6,534	16	49.9	+ 1.0	74	1	22	9	42	0.44	- 1.18	0.21	0.0	5	18	10	3	Geo. R. Simmons, jr.
Eagle.	Eagle.	6,598	4	44.0		80	3	15	8†	51	0.84		0.41	4.0	3	24	6	1	Geo. W. Dunkley.
Eureka.	San Juan.	10,000																J. M. Witteman.	
Fruita.	Mesa.	4,510	10	51.8	+ 2.2	88	5	21	9	50	0.12	- 0.98	0.12	0.0	1	20	11	0	San Juan P. & W. Co.
Gladstone.	Garfield.	10,400	3															J. B. Willsee.	
Glenwood Springs (near).	Grand Junction.	5,323	11															San Juan W. & P. Co.	
Grand Junction.	Grand.	4,808	18	55.2	+ 1.9	84	2	23	31	41	0.04	- 0.58	0.92	T.	3	23	6	2	E. A. O'Neil.
Grand Lake.	Mess.	8,153																U. S. Weather Bureau.	
Grand Valley.	Garfield.	5,089	17	51.6	+ 1.8	83	2†	18	9	53	0.17	- 1.04	0.09	0.2	2	21	6	4	Mrs. Belle Kaufman.
Gunnison.	Garfield.	7,670	16	41.4	0.0	74	1	10	31	54	0.69	+ 0.08	0.37	T.	5	18	7	6	David Evans.
Hayden.	Routt.	6,337																Clarence Adams.	
Hesperus.	La Plata.	8,870	11															C. W. Harkness.	
Horseshoe.	Montrose.	8,700																John S. Spear.	
Ignacio.	La Plata.	6,425																Lawrence J. Finch.	
Ironaton.	Ouray.	10,000																Elizabeth Schalles.	
Kremmling (near).	Grand.	7,337	1	43.4		73	3	9	9	52	0.07		0.05	1.0	3	18	8	5	P. H. Foley.
Lake City.	Hinsdale.	8,686	4	42.6		69	11	11	31	43	1.07		0.41	T.	6	21	8	2	H. A. Howe.
Lay.	Routt.	8,190	15	43.2	- 0.7	77	11	10	9†	55	1.13	+ 0.45	1.00	1.0	3	19	3	9	W. H. Ogle.
Lujane.	Montrose.	6,620	3	51.8		78	1	18	31	40	0.71		0.24	T.	5	18	11	2	A. G. Wallihan.
Mancos.	Montezuma.	6,960	10	49.2	+ 1.9	75	1†	16	9	47	0.54	- 0.41	0.34	T.	2	22	7	2	T. T. Richards.
Marble.	Gunnison.	7,951		44.2		76	1	15	9	45	1.32		0.60	6.0	6	20	9	2	B. M. Krumpantzky.
Marshall Pass.	Saguache.	10,846	6															Homer Harrington.	
Meeker.	Rio Blanco.	6,182	17	44.2	+ 0.4	77	3	13	31	53	0.61	- 0.74	0.50	1.5	2	23	7	1	William D. Lillard.
Monrose (near).	Monrose.	5,811	20	48.8	+ 0.4	83	1	17	30	51	0.14	- 0.70	0.10	0.0	3	11	20	0	R. Baker.
Nast.	Pitkin.	7,953		43.8		70	1	18	25	42	0.72		0.28	2.6	3	21	9	1	Arthur Hanthorn.
Pagoda.	Routt.	6,500	18	45.5	+ 1.4	78	5†	16	9	58	0.59	- 1.08	0.46	2.0	2	28	2	1	Shaw Brothers.
Pagoda Springs.	Archuleta.	7,108	2	43.4		74	3	12	29	55	1.76		1.23	0.0	4	20	6	5	E. T. Walker.
Paonia.	Delta.	5,694	8	53.8		83	3	23	31	41	0.79		0.30	T.	5	17	12	2	J. M. Underwood.
Parshall.	Grand.																	F. A. Field.	
Pitkin.	Gunnison.	9,500																Mrs. Maggie Cammann.	
Rangely.	Rio Blanco.	5,050	10	50.1b		81b	3	15b	31	46b	0.11b		0.10	0.1b	2b	12b	9b	b	Mrs. C. P. Hill.
Redcliff.	Eagle.	8,695	14															Dorothea Greiner.	
Rico.	Dolores.	8,824	8															Clinton B. Smith.	
River Portal.	Montrose.	6,570	3	47.9		76	1†	20	31	43	1.08		0.38	0.5	6	17	10	4	J. Dill.
Sapirero.	Gunnison.	8,125	9	42.4		70	2	17	9	43	1.60		0.70	6.4	8	26	3	2	W. F. Irving.
Silt.	Garfield.	5,441	13	50.2	+ 0.5	82	3	16	9	51	0.17	- 0.92	0.09	0.0	2	9	20	2	W. S. Park.
Silverton (1).	San Juan.	9,285	5	41.0*		74*	14	11*	23	62*								V. E. Kerr.	
Silverton (2).	do.	9,400																San Juan P. & W. Co.	
Spruce Lodge.	Grand.	6,600	1															H. J. Willis.	
Steamboat Springs.	Routt.	6,683	41.7			80	3	7	9	60	0.74		1.18	0.51	13.5	4			M. Elliot Houston.
Tacoma.	La Plata.	7,300	3															San Juan P. & W. Co. Do.	
Terminal Dam.	do.	8,300	3															Martin Ester.	
Uncompahgre Plateau.	Montrose.	8,400																C. E. Macy.	
Whitepine.	Gunnison.	9,500	8	37.7		65	3	5	9	35	0.89		0.30	12.0	4	25	2	4	Percy A. Hughes.
Yampa.	Routt.	8,000																	
<i>Utah.</i>																			
Aneth.	San Juan.	4,800	8															Maude A. Palmer.	
Baker.	do.	7,560																E. H. Wolf.	
Basin.	Grand.	9,500																James Jeffs.	
Castle Dale.	Emery.	5,500	10	50.4		76	12	16	30	46	0.00		0.00	0.0	0	25	5	0	H. J. Cooper.
Dragon.	Uinta.	1	49.6			82	6	12	31	59	0.20		0.20	2.0	1	20	9	2	U. S. Forest Service.
Dyer Mountain.	do.	10,000																Do.	
Eikhorn.	do.	7,000																H. C. Wickman.	
Emery.	Garfield.	6,280	9	53.1		79	1†	25	10	48	0.00		0.00	0.0	0	19	3	9	Geo. H. Barney.
Escalante.	Garfield.	5,700	9	51.6		78	13	20	31	49	0.00		0.00	0.0	0	23	0	8	Joseph T. Atkin.
Experiment Station.	Washington.	2,880	5															H. Curtis.	
Fort Duchesne.	Uinta.	5,000	21	49.0	+ 2.4	80	2†	16	31	48	0.08	- 0.50	0.08	0.0	1	23	8	0	Joseph A. Lyman.
Grayson.	San Juan.	5,750	5	56.3		83	14	27	9	39	0.40		0.25	0.0	2</td				

## MONTHLY WEATHER REVIEW.

OCTOBER, 1909

TABLE 1.—Climatological data for October, 1909. District No. 9—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.		Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.					
					Date.	Lowest.														
<i>Utah—Cont'd.</i>																				
Teasdale.	Wayne.	7,000	1	50.9			76°	4	16°	31	40	0.00		0.00	0.0	19°	0°	9°	Josiah Shurtz.	
Theodore.	Wasatch.	5,507	4	49.4			77	14	20	25	50	0.09		0.09	0.0	15	12	4	L. Claire Winslow.	
Tropic.	Garfield.	7,000	12	52.0	+ 4.0		82	14	23	31	48	T.	- 0.63	T.	0.0	16	13	2	E. P. Bolton.	
Vernal.	Uinta.	5,350	14	50.0								0.15		0.15	0.0	7*	1*	2*	Joab Collier.	
Wellington.	Carbon.	5,540	10	44.0			73	15	15	31	46	0.00		0.00	0.0	0	0	0	Melville Branch.	
<i>New Mexico.</i>																				
Blackrock.	McKinley.		2	53.4			91	3	18	31	47	0.00		0.00	0.0	31	0	0	w.	
Bloomfield.	San Juan.	5,600	13	51.5	- 0.2		84	1	16	9	49	0.18	- 0.54	0.08	0.0	19	10	3	sw.	
Cambray.	Luna.	4,215	11	52.0								0.00	- 0.69	0.00	0.0	31	0	0	w.	
Cliff.	Grant.	4,470	11	56.7	- 1.7		85	16	32	16	47	0.33	- 0.81	0.37	0.0	2		5	w.	
Columbus.	Luna.	4,054										0.04		0.01	0.0	4	26	0	Wm. J. Oliver.	
Deming.	do.	4,333	33	62.5			80	2	31	9	48	0.88	+ 0.20	0.89	0.0	1	25	6	Fred Le Clerc.	
Dulce.	Rio Arriba.	6,767	3	46.4			75	17	15	23	55	0.62		0.60	0.0	2	24	1	Agent, Southern Pac. Ry.	
Fort Bayard.	Grant.	6,152	35	58.5	+ 1.7		81	17	33	87	43	0.03	- 1.09	0.03	0.0	1	30	0	T. J. Clark, sr.	
Fort Wingate.	McKinley.	6,997	46	52.0	+ 0.0		79	15	24	31	44	T.	- 1.01	T.	0.0	0	25	5	W. A. Fuller.	
Frisco.	Socorro.	5,800	3															U. S. A. Gen'l Hospital.		
Fruitland.	San Juan.	4,800	17	52.5	+ 1.5		86	2	18	30	52	0.02	- 0.32	0.02	0.0	1	23	7	Medical Corps, U. S. A.	
Gage.	Luna.	4,486	3	65.1			90	1	36	31	44	0.00	- 0.36	0.00	0.0	28	3	1	John R. Milligan.	
Hachita.	Grant.	4,504																Cyril Jas. Collyer.		
Hermanes.	Luna.	4,451																Agent, Southern Pac. Ry.		
Lordsburg.	Grant.	4,245	10	62.0	+ 0.8		90	16	32	31	50	0.70	+ 0.03	0.45	0.0	2	22	3	Do.	
Luna (near).	Socorro.	7,300	5	45.8			74	21	15	31	57	0.03		0.03	0.0	1	21	10	C. B. Martin.	
Manuelito.	McKinley.	6,252	5	54.7			84	19	12	23	68					0	7	W. A. L. Tarr.		
Mimbres.	Grant.	5,007	3															Charles Dennis.		
Pratt.	do.	4,415																Agent, E. P. & S. W. R. R.		
Redrock.	do.	4,150	5															Robt. H. Woods.		
Rodeo.	do.	4,118	1															Agent, E. P. & S. W. R. R.		
Ross.	Rio Arriba.	6,000	5															B. A. Candelario.		
<i>Arizona.</i>																				
Allaire's Ranch.	Cochise.	4,184	13															Thos. Allaire.		
Arizona Canal Dam.	Maricopa.	1,372		72.1	- 0.6		95	1	38	31	41	0.00	- 0.46	0.00	0.0	23	8	0	U. S. Reclamat'n Service.	
Asteo.	Yuma.	492	9	71.4	- 5.0		100	23	44	31	51	0.00	- 0.12	0.00	0.0	23	5	0	Agent, Southern Pac. Ry.	
Benson.	Cochise.	3,523	20	64.4	- 1.5		91	17	32	31	52	0.00	- 0.86	0.00	0.0	26	5	0	Rev. J. G. Pritchard.	
Blisbee.	do.	5,500	19	62.0	+ 0.3		83	15	42	9†	33	T.	- 1.13	T.	0.0	0	31	0	A. Johnson & Co.	
Bonita.	Graham.	4,916	30															H. E. Kell.		
Bowie.	Cochise.	3,756	9	66.0	+ 1.5		93	16	35	10	47	0.00	- 0.63	0.00	0.0	28	0	3	F. Pinkley.	
Buckeye.	Maricopa.	980	17	69.2	+ 0.3		90	1	38	31	56	0.00	- 0.44	0.00	0.0	31	0	0	Agent, Southern Pac. Ry.	
Casa Grande.	Pinal.	1,396	23															Agent, Southern Pac. Ry.		
Casa Grande Ruins.	do.	1,422	1	69.6			98	1	37	31	52	0.00		0.00	0.0	30	1	0	E. H. Howard.	
Cavecreek.	Maricopa.	1,520	2	67.7			97	11	39	29	55	0.00		0.00	0.0	31	0	0	I. R. Osterman, O. F. M.	
Chin Lee.	Apache.	6,090	1	52.4			85	1	17	31	54	0.00		0.00	0.0	26	4	1	N. Erickson.	
Chiareros Mill.	Graham.	8,000	4	55.2			81	1	27	31	50	0.00		0.00	0.0	26	5	0	Dr. F. T. Wright.	
Clifton.	do.	3,584	17	67.5			91	1	45	26	39	0.00	- 1.00	0.00	0.0	29	2	0	G. F. Cook.	
Cline.	Cochise.	2,300	8															U. S. Weather Bureau.		
Cochise.	Cochise.	4,219	11	58.6	- 4.7		90	1†	32	7†	56	0.00	- 0.36	0.00	0.0	31	0	0	M. J. Nolan.	
Columbia.	Yavapai.	1,900	9	74.6			98	9	44	30	40	0.00	- 0.58	0.00	0.0	27	4	2	Assayer, Congress Mine.	
Congress.	do.	3,688	13	69.6	+ 0.3		91	23	49	31	28	0.00	- 0.44	0.00	0.0	29	1	0	N. Erickson.	
Dos Cabezos.	Cochise.	5,250	1	58.2			91	1	31	31	54	0.00		0.00	0.0	30	1	0	Dr. F. T. Wright.	
Douglas.	do.	3,930	6	63.3			93	16†	34	28	54	0.11		0.11	0.0	31	1	0	G. F. Cook.	
Dudleyville.	Pinal.	2,204	18	66.0	+ 0.1		92	1	41	10†	48	0.00	- 0.78	0.00	0.0	26	4	1	U. S. Forest Service.	
Flagstaff (1).	Coconino.	6,907	17	46.7	+ 2.0		75	14	12	31	50	T.	- 1.89	T.	0.0	0	27	4	0	Agent, P. & E. R. R.
Flagstaff (2).	do.	7,452	4	45.6			68	1	15	31	45	T.	- 1.89	T.	0.0	0	27	4	0	Post Surgeon.
Flagstaff (3).	do.	7,500	1	44.0			75	26	6	31	57	0.00		0.00	0.0	21	10	0	A. F. Duclos.	
Florence.	Pinal.	1,504	9	69.3			90	10†	41	31	39	0.00	- 0.54	0.00	0.0	30	1	0	Dr. B. G. Fox.	
Fort Apache.	Navajo.	5,300	30	58.8	+ 1.4		82	2	27	9†	50	0.00	- 1.13	0.00	0.0	30	1	0	Agent, Santa Fe R. R.	
Fort Huachuca.	Cochise.	5,100	23	66.2	+ 3.4		89	14	40	31	56	0.00	- 0.69	0.00	0.0	31	0	0	W. H. Winters.	
Fort Mohave.	Mohave.	604	20															J. C. Hancock.		
Gilabend.	Maricopa.	737	18	72.4	- 0.5		100	2	39	30†	50	0.00	- 0.36	0.00	0.0	30	1	0	Dr. L. A. Hawkins.	
Globe.	Gila.	3,325	8	65.3			90	14†	39	31	45	0.00		0.00	0.0	28	3	0	L. R. Ballard.	
Grand Canyon (1).	Coconino.	6,866	5	46.2			74	1	19	30†	46	0.00		0.00	0.0	21	2	8	G. R. Gooding.	
Grand Canyon (2).	do.	3,676	2															Agent, Southern Pac. Ry.		
Greer.	Apache.	9,200																C. L. Diehl.		
Holbrook.	Navajo.	5,069	18	55.0	+ 0.3		85	3	20	31	57	0.00	- 0.68	0.00	0.0	22	7	2	Agent, Southern Pac. Ry.	
Intake.	Gila.	2,230	4	65.0	+ 3.1		84	23	39	31	54	0.00	- 0.98	0.00	0.0	31	0	0	A. H. Neal.	
Jerome.	Yavapai.	4,743	12															Dr. L. A. Hawkins.		
Keams Canyon.	Navajo.	4		51.8			78	15	24	9	45	0.00		0.00	0.0	28	3	0	L. R. Ballard.	
Kingman.	Mohave.	3,326		61.2			91	14	33	4	52	0.00		0.00	0.0	26	5	0	G. R. Gooding.	
Maricopa.	Pinal.	1,188	29	70.1	- 1.9		98	24	39	31	49	0.00	- 0.43	0.00	0.0	31	0	0	Agent, Southern Pac. Ry.	
Mesa.	Maricopa.	1,244	14	71.2	+ 1.4		98	23	35	31	54	0.00	- 0.48	0.00	0.0	27	4	0	C. L. Diehl.	
Mohawk Summit.	Yuma.	538	9	77.0	- 0.1		98	2	52	19	42	0.00	- 0.21	0.00	0.0	28	3	0	D. G. Goodfellow.	
Natural Bridge.	Gila.	4,900	20															Wallace & Summerhayes.		
Nogales.	Santa Cruz.	3,830	5	64.2			94	21	34	31	54	0.00	- 1.30	0.00	0.0	24	7	0	W. H. Winters.	
Oracle.	Pinal.	4,500	19	65.0	+ 1.4		81	15	44	31	53	0.00	- 0.80	0.00	0.0	31	0	0	J. C. Hancock.	
Paradise.	Cochise.	3,940	2	59.0			95	16												

TABLE 1.—*Climatological data for October, 1909. District No. 9—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
<i>Arizona—Cont'd.</i>																			
Thatcher.....	Graham.	2,800	...	62.6		96	3	32	9	58	0.00	—	0.00	0.0	0	25	6	0	nw.
Tombstone.....	Cochise.	4,550	14	65.4	+ 1.2	90	21	42	87	40	0.05	— 0.33	0.05	0.0	1	30	1	0	...
Tuba.....	Coconino.	4,500	9	55.6		84	1	23	31	45	0.10		0.10	0.0	1	17	14	0	ne.
Tucson (1).....	Pima.	2,390	29	67.7		98	21	36	31	53	0.00	— 0.53	0.00	0.0	0	16	15	0	nw.
Tucson (2).....	do.	2,380	1	64.8		100	27	33	23†	61	0.00		0.00	0.0	0	31	0	0	sw.
Upper San Pedro.....	Cochise.	5,000																	B. T. Stuart.
Vall.....	Pima.	3,421	11	62.4	— 8.0	89	2	39	12†	44	0.00	— 0.19	0.00	0.0	0	31	0	0	se.
Walnut Grove.....	Yavapai.	3,649	19																J. O. Carter.
Wickenburg.....	Maricopa.	2,072	2	70.1	+ 5.5	96	1	42	31	46	0.00	— 0.16	0.00	0.0	0	31	0	0	sw.
Willcox.....	Cochise.	4,164	29	59.8	— 1.5	90	2†	30	29	54	0.00	— 0.57	0.00	0.0	0	27	0	4	sw.
Williams.....	Coconino.	6,750	10	56.0		80	3	28	31	48	0.03		0.02	0.0	2	29	0	2	ne.
Winslow.....	Navajo.	4,853	1	58.0		89	15	20	31	53	0.00		0.00	0.0	0	27	4	0	...
Yarnell.....	Yavapai.	4,700	11								0.00	— 0.74	0.00	0.0	0	31	0	0	sw.
Yuma (1).....	Yuma.	141	30	70.2	— 3.2	96	11	45	28	44	0.00	— 0.19	0.00	0.0	0	30	1	0	n.
Yuma (2).....	do.	150	2	67.8		97	11	32	31	50	0.00		0.00	0.0	0	29	3	0	sw.
<i>Nevada.</i>																		E. L. Crane.	
Caliente.....	Lincoln.																	Agent, Salt Lake Route.	
Las Vegas.....	Clark.	2,033	2	63.0*		90*	11†	30*	30	55	0.00		0.00	0.0	0	14	14	3	n.
Logan.....	do.	1,700	3	63.8		91	23	29	31	47	0.00		0.00	0.0	0	14	14	3	...

\* Precipitation included in that of the next measurement.

\*\* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

¶ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

\*\* Estimated by observer.

† Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

\*, †, ‡, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for October, 1909. District No. 9, Colorado Valley.*

Stations.	River basins	Day of month.																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total		
<i>Wyoming.</i>																																			
Daniel.	Green.															T.																	T.	T.	
Dixon.	do.																																0.16		
Eden.	do.																																		
Fontenelle.	do.																																T.		
Green River.	do.																																		
Kendall.	do.																																		
Pinedale.	do.																																		
Willow Creek Cabin Colorado.	do.																																		
Ashcroft.	Grand.																																18.104		
Breckenridge.	do.																															0.07	0.51		
Cascade.	San Juan.																																0.99		
Chromo.	do.																																0.01	0.52	
Colibri.	Gunnison.																																14.037		
Columbine.	Grand.																																25.026		
Cumbine Ranch.	Yampa.																																		
Corona.	Grand.																																34.120		
Crawford.	Gunnison.																																0.03	0.92	
Crested Butte.	do.																																10.	0.80	
De Beque.	Grand.																																		
Delta.	Guad.																																T.	0.43	
Dillon.	Grand.																																20.050		
Dolores.	Dolores.																																T.	0.31	
Dunkley.	Yampa.																																		
Durango.	San Juan.																																0.44		
Eagle.	Grand.																																41.024		
Eureka.	San Juan.																																T.	12.012	
Fruita.	Grand.																																T.	0.03	0.03
Gladstone.	San Juan.																																0.05		
Glenwood Springs.	Grand.																																		
Grand Junction.	do.																																0.02	0.04	
Grand Lake.	do.																																0.55		
Grand Valley.	do.																																0.08	0.17	
Gunnison.	Gunnison.																																T.	0.09	
Hayden.	Yampa.																																T.	0.83	
Hesperus.	San Juan.																																		
Horsefly.	do.																																		
Ignacio.	San Juan.																																	0.40	
Ironton.	Gunnison.																																		
Kremmling.	Grand.																																0.05	0.07	
Lake City.	Gunnison.																																0.02	1.07	
Ley.	Yampa.																																T.	0.71.13	
Lujane.	Gunnison.																																0.07	0.71	
Mancos.	San Juan.																																T.	0.54	
Marble.	Grand.																																23.129		
Marshall Pass.	Gunnison.																																		
Meeker.	White.																																11.061		
Montrose.	Gunnison.																															T.	10.014		
Nast.	Grand.																																23.072		
Pagoda.	Yampa.																																13.050		
Pagosa Springs.	San Juan.																																1.76		
Paonia.	Gunnison.																																0.08	0.70	
Parshall.	do.																																10.032		
Pitkin.	Gunnison.																																10.106		
Rangely.	White.																																0.01	0.11	
Redcliffe.	do.																																T.	53.103	
Rico.	Dolores.																																		
River Portal.	Gunnison.																																17.	1.08	
Sapinero.	do.																																23.160		
Silt.	Grand.																																0.17		
Silverton (1).	San Juan.																																		
Silverton (2).	do.																																26.118		
Spruce Lodge.	do.																																48.074		
Steamboat Springs.	Yampa.																																		
Tacoma.	San Juan.																																		
Terminal Dam.	do.																																		
Uncompahgre Plateau.	Gunnison.																																25.089		
Whitewater.	do.																																0.08	0.08	
Yampa.	Yampa.																																		
<i>Utah.</i>																																			
Aneth.	Colorado.																																		
Baker.	do.																																	0.01	1.77
Basin.	Grand.																																30.078		
Castle Dale.	Green.																																		
Dragon.	do.																																		

TABLE 2.—*Daily precipitation for October, 1909. District No. 9—Continued.*

TABLE 2—*Daily precipitation for October, 1909. District No. 9—Continued.*

TABLE 3.—*Maximum and minimum temperatures at selected stations, October, 1909. District No. 9, Colorado Valley.*

Wyoming.				Colorado.								Utah.								New Mexico.										
Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Hite.		Moab.		St. George (Experiment station).		Fort Bayard.			Fort Wingate.			
Date.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1..	64	22	62	30	74	40	81	49	74	49	75	30	77	25			78	35	86	49	84	42	84	46	81	51	76	48		
2..	65	24	63	40	74	37	84	56	72	27	75	30	79	25			80	38	88	55	86	50	81	53	81	52	78	42		
3..	68	28	64	46	72	38	79	55	62	27	77	34	80	27			80	39	85	65	83	56	77	58	79	50	74	42		
4..	67	29	69	41	67	44	75	54	65	35	67	41	75	32			68	26	83	52	82	55	76	49	70	47	70	30		
5..	69	33	66	39	71	45	77	56	65	36	71	40	71	36			75	36	80	50	84	44	77	38	79	48	71	32		
6..	60	24	67	32	80	40	66	52	60	20	59	34	62	33			70	38	78	51	84	45	77	38	75	40	68	30		
7..	45	28	57	36	53	35	63	45	49	34	43	24	51	36			66	39	74	53	70	50	74	43	73	33	70	31		
8..	42	12	50	14	50	27	55	37	47	23	53	23	43	23			55	24	67	44	68	38	71	46	75	32	53	29		
9..	58	22	62	24	60	23	60	30	48	14	53	17	50	7			63	22	72	41	68	27	77	35	74	33	61	32		
10..	59	25	69	32	69	30	68	35	49	18	62	22	60	22			72	28	80	41	74	31	81	38	71	33	64	34		
11..	58	28	64	15	68	33	72	34	56	20	53	24	55	32			75	33	82	44	78	34	83	39	74	37	69	31		
12..	60	19	67	19	70	33	74	35	62	22	55	22	54	18			76	33	84	43	80	34	80	44	75	39	70	34		
13..	63	20	70	23	73	33	73	37	62	23	65	25	56	19			75	31	85	45	83	37	84	38	79	40	76	37		
14..	64	28	72	35	73	35	77	38	66	20	66	26	63	19			77	32	86	45	83	38	84	40	80	45	77	35		
15..	65	24	75	27	73	35	76	45	64	23	68	28	71	17			76	30	85	44	84	35	84	38	81	50	79	35		
16..	64	18	73	27	70	37	74	47	63	24	72	29	72	18			71	31	82	45	81	37	79	39	80	47	69	40		
17..	64	22	73	26	69	40	76	38	65	19	65	26	68	24			75	35	84	49	82	38	83	38	75	50	65	37		
18..	63	15	67	28	68	33	72	42	60	21	66	21	69	27			70	28	82	48	79	34	83	38	65	32	65	32		
19..	60	18	81	31	66	33	73	37	56	19	67	26	68	15			78	30	80	46	77	39	83	38	70	33	66	30		
20..	58	20	73	29	70	29	72	35	54	22	61	25	58	19			70	27	83	41	77	37	79	36	68	37	70	43		
21..	56	12	57	19	69	29	67	44	59	24	63	15	69	10			63	23	78	42	76	32	76	39	79	45	73	35		
22..	58	14	65	26	71	35	69	33	63	12	69	20	59	17			65	25	82	43	77	31	81	32	78	47	67	37		
23..	65	16	70	15	66	31	72	38	64	18	65	18	67	10			65	22	84	42	75	29	82	32	75	45	71	30		
24..	64	17	64	24	68	31	66	30	65	14	65	17	63	11			67	23	76	38	74	28	79	30	79	47	70	30		
25..	62	15	70	22	67	31	66	34	62	15	64	16	63	11			64	21	77	39	75	23	79	31	73	38	70	34		
26..	64	17	65	32	71	29	69	33	63	16	65	22	63	11			67	24	79	37	75	31	78	28	74	45	70	34		
27..	62	13	74	22	69	31	70	35	62	11	69	21	67	14			68	22	76	36	72	28	76	26	75	42	73	29		
28..	63	13	75	22	70	30	60	38	66	12	69	19	70	10			67	22	75	36	78	27	82	31	70	45	70	32		
29..	48	16	56	24	63	27	72	37	65	14	55	29	65	13			68	28	77	44	78	55	75	41	72	43	66	49		
30..	43	12	40	19	58	27	67	34	64	11	60	26	63	13			58	24	69	37	78	26	65	38	68	40	59	39		
31..	43	13	46	14	52	22	48	28	62	10	50	13	40	21			51	16	62	32	63	26	64	25	68	38	66	24		
Mos.	59.5	19.8	65.4	26.9	66.9	32.9	70.5	40.0	61.1	21.7	63.9	24.6	63.6	19.8			69.4	28.5	79.4	44.3	77.7	36.8	78.8	38.1	74.9	42.1	69.2	34.7		

## **Arizona.**

Date.	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson.		Yuma.		Logan, Nev.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	80	56	69	33	83	44	74	38	.....	.....	95	61	77	44	76	38	.....	.....	94	57	93	57	89	52
2.....	78	57	67	42	85	47	71	37	.....	.....	94	64	78	41	74	41	.....	.....	92	64	87	57	81	48
3.....	75	53	62	34	77	51	72	38	.....	.....	84	60	69	40	75	40	.....	.....	87	60	82	56	79	51
4.....	76	51	62	30	79	41	60	28	.....	.....	83	56	68	35	73	35	.....	.....	88	50	84	48	79	41
5.....	77	51	63	26	80	40	60	28	.....	.....	87	55	71	31	74	36	.....	.....	96	46	88	50	82	45
6.....	74	55	59	38	73	42	54	26	.....	.....	84	55	68	35	62	39	.....	.....	85	50	90	52	81	44
7.....	67	47	61	33	72	40	60	29	.....	.....	85	54	68	40	59	37	.....	.....	82	45	90	54	83	44
8.....	68	45	57	26	68	34	53	24	.....	.....	86	53	67	39	49	27	.....	.....	93	48	89	53	78	55
9.....	65	42	80	25	73	27	53	25	.....	.....	84	56	68	27	57	22	.....	.....	83	42	89	58	84	40
10.....	72	43	67	27	79	31	63	28	.....	.....	91	54	75	28	67	27	.....	.....	89	43	92	58	89	44
11.....	77	47	70	28	80	34	68	28	.....	.....	92	55	76	33	66	29	.....	.....	92	44	96	55	90	48
12.....	77	50	70	33	80	35	56	24	.....	.....	92	59	76	40	68	30	.....	.....	92	45	92	53	85	46
13.....	76	57	70	29	81	36	64	26	.....	.....	92	58	78	38	69	33	.....	.....	92	48	93	52	90	47
14.....	79	51	75	28	84	34	64	22	.....	.....	92	54	79	35	72	33	.....	.....	92	45	96	52	90	43
15.....	83	52	71	27	84	37	68	24	.....	.....	91	55	78	36	74	34	.....	.....	94	42	95	53	87	41
16.....	75	56	62	29	78	38	68	24	.....	.....	82	59	66	40	69	35	.....	.....	87	59	81	56	87	51
17.....	67	46	66	29	75	33	70	26	.....	.....	81	53	72	33	66	33	.....	.....	80	43	86	50	88	46
18.....	69	47	68	26	77	34	71	26	.....	.....	88	54	75	36	63	33	.....	.....	87	45	88	50	86	45
19.....	71	44	63	29	75	36	70	24	.....	.....	90	55	67	36	65	31	.....	.....	89	54	89	50	87	44
20.....	79	48	67	29	79	34	73	30	.....	.....	88	54	75	31	65	29	.....	.....	91	45	86	48	85	45
21.....	82	49	68	30	83	35	73	30	.....	.....	91	52	75	36	72	33	.....	.....	96	46	85	48	80	44
22.....	80	52	66	22	83	37	68	26	.....	.....	89	49	77	32	67	31	.....	.....	98	45	90	46	86	43
23.....	71	53	67	28	79	34	68	30	.....	.....	94	53	80	33	65	25	.....	.....	90	46	93	52	91	44
24.....	73	47	71	24	80	35	70	26	.....	.....	93	61	79	31	66	26	.....	.....	90	61	95	58	85	50
25.....	78	47	72	27	81	31	71	26	.....	.....	91	57	78	31	64	25	.....	.....	92	47	95	52	86	42
26.....	79	50	72	23	80	31	70	26	.....	.....	89	52	78	32	68	25	.....	.....	93	44	91	48	85	39
27.....	76	50	71	22	80	30	70	24	.....	.....	88	51	79	31	63	25	.....	.....	90	43	90	48	81	38
28.....	76	48	64	24	78	32	68	22	.....	.....	87	48	79	30	68	24	.....	.....	90	44	88	45	83	40
29.....	72	51	68	38	75	30	64	22	.....	.....	82	52	68	34	64	22	.....	.....	86	44	80	52	76	40
30.....	68	48	53	30	75	28	58	19	.....	.....	76	50	62	32	59	32	.....	.....	81	44	79	47	69	36
31.....	69	42	56	12	69	27	59	19	.....	.....	78	44	63	20	52	20	.....	.....	78	36	79	46	70	29
Means...	74.5	49.5	65.4	28.0	78.2	35.4	65.5	26.9	.....	.....	87.6	54.6	73.2	34.1	66.4	30.6	.....	.....	87.8	47.6	88.7	51.7	88.6	44.0